

REMARKS

In the Office Action of January 29, 2004, claims 1-30, 33-43, 49, 54, 57-61, 70-72, 77-85 and 89 were rejected under § 112 as being indefinite and claims 1, 4-6, 10, 15-17, 20, 23, 24, 27, 44, 47, 57, 59, 62, 64, 67, 73, 77, 82 and 86 were objected to as containing various informalities. Each of these above claims, to the extent they have not been cancelled, has been amended in the manner suggested by the Examiner and/or to overcome the identified rejections and objections. Specifically, the rejection of claim 1 under § 112 as to whether the dental implant was intended to be positively claimed, independent claim 1 has been amended to claim the combination of an impression cap and a dental implant. With respect to the rejection regarding the shape of the body as being either "cylinder-shaped" or "conical", all claims have been amended to delete the shape of the body as being "cylinder-shaped" and have instead described the body as being "elongated". This is consistent with the dependent claims which require the body to be "conical" and is more accurate as seen from the drawings.

Claims 46-52, 64-66, 67, 87 and 88 were objected to as being dependent upon a rejected base claim, but which would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Pursuant to the above amendments, these claims have been written in independent form to include all of the limitations of their respective base claim and intervening claims.

Claims 24, 26, 35-43, 59-61, 80-84 and 89 were also indicated as being allowable if rewritten in independent form to overcome the rejections under § 112 and to include all the limitations of the base claim and any intervening claims. These claims have also been amended to overcome the § 112 rejections and (subject to the amendments to overcome the § 112 rejections) include all of the limitations of their respective base claim and intervening claims.

Accordingly, all of the claims which have been indicated as being allowable are now in allowable form and their formal allowance is respectfully requested.

Claims 27, 31-34, 35, 76 and 89 have been cancelled.

Aside from the claims which have been cancelled or which have been indicated as containing allowable subject matter and rewritten in independent form as indicated above, the independent claims currently in the application include claims 44, 62, 73 and 86. Each of these independent claims, and certain of their respective dependent claims have been rejected in view

of prior art. Each of these independent claims will be discussed relative to the prior art upon which their rejection was based and the limitations in the claims which are believed to distinguish from the prior art and render the claims patentable.

Independent claim 1 has been rejected under § 102 as being anticipated by *Hurson* (2002/0106610) and *Halldin* (2003/0082499) and under § 103 as being obvious over *Grande, et al.* (6,068,478). All of the cited references disclose means for connecting the impression cap to a dental implant or abutment by a means in which the lower end of the impression cap includes an inwardly extending lip or flange which is intended to snap around or extend inwardly of the outer peripheral collar of a dental implant. This is a different structure than that of the present invention in which the connection between the impression cap and the dental implant is via a press fit. Specifically, independent claim 1 requires the press fit mechanism in the impression cap to include a press fit surface which is an internal surface with an internal side wall generally parallel to the longitudinal axis of the dental implant when the impression cap and dental implant are in their press fit connection. This is a structural difference which clearly differentiates claim 1 from the prior art and results in an entirely different connection concept.

Independent claim 44 has been rejected under § 102 as being anticipated by *Halldin* (2003/0082499). With respect to this rejection, the Examiner's position is that *Halldin* shows a first groove formed in the inner surface adjacent the second end as shown in Figure 7b. While this may be true, the groove of *Halldin* is for an entirely different purpose. Pursuant to the above amendments, the first groove as defined in claim 44 is now defined as an "air vent" groove and the inner cavity has been defined as a "substantially closed" inner cavity. This latter limitation distinguishes between a closed and open impression cap. With a substantially closed inner cavity in accordance with claim 44, impression material is precluded from entering such inner cavity. In contrast, the impression cap of *Halldin* as shown in Figure 7b is an open system in which impression material is free to enter through the opening 245. Further, because of the fact that the inner cavity in claim 44 is now defined as being "substantially closed", it is particularly desirable for the body to include an "air vent" groove for the purpose of venting air between the groove and the abutment piece to permit the impression cap to be mounted onto the abutment piece.

Independent claim 62 has been rejected as being anticipated by *Hurson* (6,672,871). The Examiner's position is that *Hurson* shows inwardly extending bulges 110 formed on the

abutment flat as shown in Figure 7a. Pursuant to the above amendments, independent claim 62 has been amended to require the abutment flat as having a first end closest to the first end of the body and a second end closest to the second end of the body and to require the bulge to be adjacent to the second end of the abutment flat. In contrast, the elements 110 of *Hurson* which the Examiner has characterized as bulges are in fact standoffs which simulate the thickness of the cement which will be used to connect the abutment to the final restoration. Thus, when used for this purpose, the standoffs are preferably spaced from the second or lower end of the abutment flat as shown in Figure 7a and are not adjacent to the second or lower end of the abutment flat.

Independent claim 73 has been rejected under § 102 as being anticipated by *Halldin* (2003/0082499) and by *Hurson* (6,672,871). Independent claim 73 is directed to an impression cap which includes an abutment flat formed on the inner surface of the body and external geometry formed on the outer surface of the body. Claim 73 has been amended to require this external geometry as comprising an “indicator surface” which corresponds to and identifies the abutment flat. Thus, when the impression cap is positioned onto the abutment, with the abutment flat being hidden from view, the indicator surface can be used to identify the orientation of the abutment flat. While both *Halldin* and *Hurson* show impression caps with abutment flats, the exterior geometry of both impression caps appears to be symmetrical. Thus, there appears to be no surface that could be identified as an “indicator surface” to identify the location of the abutment flat when the impression cap is positioned on the abutment.

Independent claim 86 has been rejected under § 102 as being anticipated by *Porter* (2001/0034008). In its amended form, independent claim 82 is directed to an impression cap having an elongated body with an open end and a “substantially closed” inner cavity. The cap further includes a first end which is substantially closed which comprises a vent which includes a “closeable vent opening” which releases air when the cap is placed onto an abutment piece. This is shown in Figures 20-24 and described on page 12 in the paragraph beginning on line 5 and ending on line 13. This structure is clearly distinguishable from that shown in *Porter*. As shown in Figure 5a of *Porter*, the impression cap 90 includes a contoured hole 92 at its top. The contoured hole 92 is provided with expansions 93 to provide axial retention with respect to the post 85 (Figure 4d) of an abutment. Thus, not only is the hole of *Porter* used for an entirely different purpose, *Porter* does not disclose a “closeable vent opening”, nor does it disclose an inner cavity which is substantially closed.

Accordingly, the independent claims as discussed above are considered to be clearly distinguishable from the prior art. The respective dependent claims include the limitations of their respective independent claims and thus are allowable for the same reasons.

Accordingly, for all of the above reasons, and particularly in view of the amendments to the claims, the discussion of the prior art and the distinctions between the amended claims and the prior art, it is submitted that the present claims are in condition for allowance and such action is respectfully requested.

If the Examiner has any questions or believes a telephone call would expedite the prosecution of this application, the Examiner is requested to telephone the undersigned at the number indicated.

Respectfully submitted,

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